

such State or Federal Hg mass emission reduction program only to the extent that the petition is approved in writing by the Administrator, in consultation with the permitting authority.

(2) Notwithstanding paragraph (h)(1) of this section, petitions requesting an alternative to a requirement concerning any additional CEMS required solely to meet the common stack provisions of § 75.82 shall be submitted to the permitting authority and the Administrator and shall be governed by paragraph (h)(3) of this section. Such a petition shall meet the requirements of § 75.66 and any additional requirements established by an applicable State or Federal Hg mass emission reduction program that adopts the requirements of this subpart.

(3) The designated representative of an affected unit that is not subject to the Acid Rain Program may submit a petition to the permitting authority and the Administrator requesting an alternative to any requirement of this subpart. Such a petition shall meet the requirements of § 75.66 and any additional requirements established by the applicable State or Federal Hg mass emission reduction program that adopts the requirements of this subpart. Use of an alternative to any requirement of this subpart is in accordance with this subpart only to the extent that it is approved in writing by the Administrator, in consultation with the permitting authority.

[70 FR 28684, May 18, 2005, as amended at; 73 FR 4360, Jan. 24, 2008]

**§ 75.81 Monitoring of Hg mass emissions and heat input at the unit level.**

The owner or operator of the affected coal-fired unit shall either:

(a) Meet the general operating requirements in § 75.10 for the following continuous emission monitors (except as provided in accordance with subpart E of this part):

(1) A Hg concentration monitoring system (as defined in § 72.2 of this chapter) or a sorbent trap monitoring system (as defined in § 72.2 of this chapter), to measure the mass concentration of total vapor phase Hg in the flue gas, including the elemental and

oxidized forms of Hg, in micrograms per standard cubic meter ( $\mu\text{g}/\text{scm}$ ); and

(2) A flow monitoring system; and

(3) A continuous moisture monitoring system (if correction of Hg concentration for moisture is required), as described in § 75.11(b). Alternatively, the owner or operator may use the appropriate fuel-specific default moisture value provided in § 75.11, or a site-specific moisture value approved by petition under § 75.66; and

(4) If heat input is required to be reported under the applicable State or Federal Hg mass emission reduction program that adopts the requirements of this subpart, the owner or operator must meet the general operating requirements for a flow monitoring system and an  $\text{O}_2$  or  $\text{CO}_2$  monitoring system to measure heat input rate.

(b) For an affected unit that emits 464 ounces (29 lb) of Hg per year or less, use the following excepted monitoring methodology. To implement this methodology for a qualifying unit, the owner or operator shall meet the general operating requirements in § 75.10 for the continuous emission monitors described in paragraphs (a)(2) and (a)(4) of this section, and perform Hg emission testing for initial certification and on-going quality-assurance, as described in paragraphs (c) through (e) of this section.

(c) To determine whether an affected unit is eligible to use the monitoring provisions in paragraph (b) of this section:

(1) The owner or operator must perform Hg emission testing one year or less before the compliance date in § 75.80(b), to determine the Hg concentration (i.e., total vapor phase Hg) in the effluent.

(i) The testing shall be performed using one of the Hg reference methods listed in § 75.22(a)(7), and shall consist of a minimum of 3 runs at the normal unit operating load, while combusting coal. The coal combusted during the testing shall be representative of the coal that will be combusted at the start of the Hg mass emissions reduction program (preferably from the same source(s) of supply).

(ii) The minimum time per run shall be 1 hour if Method 30A is used. If either Method 29 in appendix A-8 to part

60 of this chapter, ASTM D6784–02 (the Ontario Hydro method) (incorporated by reference under § 75.6 of this part), or Method 30B is used, paired samples are required for each test run and the runs must be long enough to ensure that sufficient Hg is collected to analyze. When Method 29 in appendix A–8 to part 60 of this chapter or the Ontario Hydro method is used, the test results shall be based on the vapor phase Hg collected in the back-half of the sampling trains (i.e., the non-filterable impinger catches). For each Method 29 in appendix A–8 to part 60 of this chapter, Method 30B, or Ontario Hydro method test run, the paired trains must meet the relative deviation (RD) requirement specified in § 75.22(a)(7) or Method 30B, as applicable. If the RD specification is met, the results of the two samples shall be averaged arithmetically.

(iii) If the unit is equipped with flue gas desulfurization or add-on Hg emission controls, the controls must be operating normally during the testing, and, for the purpose of establishing

proper operation of the controls, the owner or operator shall record parametric data or SO<sub>2</sub> concentration data in accordance with § 75.58(b)(3)(i).

(iv) If two or more of units of the same type qualify as a group of identical units in accordance with § 75.19(c)(1)(iv)(B), the owner or operator may test a subset of these units in lieu of testing each unit individually. If this option is selected, the number of units required to be tested shall be determined from Table LM–4 in § 75.19. For the purposes of the required retests under paragraph (d)(4) of this section, EPA strongly recommends that (to the extent practicable) the same subset of the units not be tested in two successive retests, and that every effort be made to ensure that each unit in the group of identical units is tested in a timely manner.

(2)(i) Based on the results of the emission testing, Equation 1 of this section shall be used to provide a conservative estimate of the annual Hg mass emissions from the unit:

$$E = N K C_{\text{Hg}} Q_{\text{max}} \quad (\text{Eq. 1})$$

Where:

E = Estimated annual Hg mass emissions from the affected unit, (ounces/year)

K = Units conversion constant,  $9.978 \times 10^{-10}$  oz-scm/μg-scf

N = Either 8,760 (the number of hours in a year) or the maximum number of operating hours per year (if less than 8,760) allowed by the unit's Federally-enforceable operating permit.

$C_{\text{Hg}}$  = The highest Hg concentration (μg/scm) from any of the test runs or 0.50 μg/scm, whichever is greater

$Q_{\text{max}}$  = Maximum potential flow rate, determined according to section 2.1.4.1 of appendix A to this part, (scfh)

(ii) Equation 1 of this section assumes that the unit operates at its maximum potential flow rate, either year-round or for the maximum number of hours allowed by the operating permit (if unit operation is restricted to less than 8,760 hours per year). If the permit restricts the annual unit heat input but not the number of annual unit operating hours, the owner or operator may divide the allowable annual

heat input (mmBtu) by the design rated heat input capacity of the unit (mmBtu/hr) to determine the value of “N” in Equation 1. Also, note that if the highest Hg concentration measured in any test run is less than 0.50 μg/scm, a default value of 0.50 μg/scm must be used in the calculations.

(3) If the estimated annual Hg mass emissions from paragraph (c)(2) of this section are 464 ounces per year or less, then the unit is eligible to use the monitoring provisions in paragraph (b) of this section, and continuous monitoring of the Hg concentration is not required (except as otherwise provided in paragraphs (e) and (f) of this section).

(d) If the owner or operator of an eligible unit under paragraph (c)(3) of this section elects not to continuously monitor Hg concentration, then the following requirements must be met:

(1) The results of the Hg emission testing performed under paragraph (c)

of this section shall be submitted as a certification application to the Administrator and to the permitting authority, no later than 45 days after the testing is completed. The calculations demonstrating that the unit emits 464 ounces (or less) per year of Hg shall also be provided, and the default Hg concentration that will be used for reporting under § 75.84 shall be specified in both the electronic and hard copy portions of the monitoring plan for the unit. The methodology is considered to be provisionally certified as of the date and hour of completion of the Hg emission testing.

(2) Following initial certification, the same default Hg concentration value that was used to estimate the unit's annual Hg mass emissions under paragraph (c) of this section shall be reported for each unit operating hour, except as otherwise provided in paragraph (d)(4)(iv) or (d)(6) of this section. The default Hg concentration value shall be updated as appropriate, according to paragraph (d)(5) of this section.

(3) The hourly Hg mass emissions shall be calculated according to section 9.1.3 in appendix F to this part.

(4) The Hg emission testing described in paragraph (c) of this section shall be repeated periodically, for the purposes of quality-assurance, as follows:

(i) If the results of the certification testing under paragraph (c) of this section show that the unit emits 144 ounces (9 lb) of Hg per year or less, the first retest is required by the end of the fourth QA operating quarter (as defined in § 72.2 of this chapter) following the calendar quarter of the certification testing; or

(ii) If the results of the certification testing under paragraph (c) of this section show that the unit emits more than 144 ounces of Hg per year, but less than or equal to 464 ounces per year, the first retest is required by the end of the second QA operating quarter (as defined in § 72.2 of this chapter) following the calendar quarter of the certification testing; and

(iii) Thereafter, retesting shall be required either semiannually or annually (*i.e.*, by the end of the second or fourth QA operating quarter following the quarter of the previous test), depending

on the results of the previous test. To determine whether the next retest is due within two or four QA operating quarters, substitute the highest Hg concentration from the current test or 0.50 µgm/scm (whichever is greater) into the equation in paragraph (c)(2) of this section. If the estimated annual Hg mass emissions exceeds 144 ounces, the next test is due within two QA operating quarters. If the estimated annual Hg mass emissions is 144 ounces or less, the next test is due within four QA operating quarters.

(iv) An additional retest is required when there is a change in the coal rank of the primary fuel (*e.g.*, when the primary fuel is switched from bituminous coal to lignite). Use ASTM D388-99 (incorporated by reference under § 75.6 of this part) to determine the coal rank. The four principal coal ranks are anthracitic, bituminous, subbituminous, and lignitic. The ranks of anthracite coal refuse (culm) and bituminous coal refuse (gob) shall be anthracitic and bituminous, respectively. The retest shall be performed within 720 unit operating hours of the change.

(5) The default Hg concentration used for reporting under § 75.84 shall be updated after each required retest. This includes retests that are required prior to the compliance date in § 75.80(b). The updated value shall either be the highest Hg concentration measured in any of the test runs or 0.50 µg/scm, whichever is greater. The updated value shall be applied beginning with the first unit operating hour in which Hg emissions data are required to be reported after completion of the retest, except as provided in paragraph (d)(4)(iv) of this section, where the need to retest is triggered by a change in the coal rank of the primary fuel. In that case, apply the updated default Hg concentration beginning with the first unit operating hour in which Hg emissions are required to be reported after the date and hour of the fuel switch.

(6) If the unit is equipped with a flue gas desulfurization system or add-on Hg controls, the owner or operator shall record the information required under § 75.58(b)(3) for each unit operating hour, to document proper operation of the emission controls. For any

operating hour in which this documentation is unavailable, the maximum potential Hg concentration, as defined in section 2.1.7 of appendix A to this part, shall be reported.

(e) For units with common stack and multiple stack exhaust configurations, the use of the monitoring methodology described in paragraphs (b) through (d) of this section is restricted as follows:

(1) The methodology may not be used for reporting Hg mass emissions at a common stack unless all of the units using the common stack are affected units and the units' combined potential to emit does not exceed 464 ounces of Hg per year times the number of units sharing the stack, in accordance with paragraphs (c) and (d) of this section. If the test results demonstrate that the units sharing the common stack qualify as low mass emitters, the default Hg concentration used for reporting Hg mass emissions at the common stack shall either be the highest value obtained in any test run or 0.50 µg/scm, whichever is greater.

(i) The initial emission testing required under paragraph (c) of this section may be performed at the common stack if the following conditions are met. Otherwise, testing of the individual units (or a subset of the units, if identical, as described in paragraph (c)(1)(iv) of this section) is required:

(A) The testing must be done at a combined load corresponding to the designated normal load level (low, mid, or high) for the units sharing the common stack, in accordance with section 6.5.2.1 of appendix A to this part;

(B) All of the units that share the stack must be operating in a normal, stable manner and at typical load levels during the emission testing. The coal combusted in each unit during the testing must be representative of the coal that will be combusted in that unit at the start of the Hg mass emission reduction program (preferably from the same source(s) of supply);

(C) If flue gas desulfurization and/or add-on Hg emission controls are used to reduce level the emissions exiting from the common stack, these emission controls must be operating normally during the emission testing and, for the purpose of establishing proper operation of the controls, the owner or

operator shall record parametric data or SO<sub>2</sub> concentration data in accordance with § 75.58(b)(3)(i);

(D) When calculating E, the estimated maximum potential annual Hg mass emissions from the stack, substitute the maximum potential flow rate through the common stack (as defined in the monitoring plan) and the highest concentration from any test run (or 0.50 µg/scm, if greater) into Equation 1;

(E) The calculated value of E shall be divided by the number of units sharing the stack. If the result, when rounded to the nearest ounce, does not exceed 464 ounces, the units qualify to use the low mass emission methodology; and

(F) If the units qualify to use the methodology, the default Hg concentration used for reporting at the common stack shall be the highest value obtained in any test run or 0.50 µg/scm, whichever is greater; or

(ii) The retests required under paragraph (d)(4) of this section may also be done at the common stack. If this testing option is chosen, the testing shall be done at a combined load corresponding to the designated normal load level (low, mid, or high) for the units sharing the common stack, in accordance with section 6.5.2.1 of appendix A to this part. Provided that the required load level is attained and that all of the units sharing the stack are fed from the same on-site coal supply during normal operation, it is not necessary for all of the units sharing the stack to be in operation during a retest. However, if two or more of the units that share the stack are fed from different on-site coal supplies (e.g., one unit burns low-sulfur coal for compliance and the other combusts higher-sulfur coal), then either:

(A) Perform the retest with all units in normal operation; or

(B) If this is not possible, due to circumstances beyond the control of the owner or operator (e.g., a forced unit outage), perform the retest with the available units operating and assess the test results as follows. Use the Hg concentration obtained in the retest for reporting purposes under this part if the concentration is greater than or equal to the value obtained in the most recent test. If the retested value is

lower than the Hg concentration from the previous test, continue using the higher value from the previous test for reporting purposes and use that same higher Hg concentration value in Equation 1 to determine the due date for the next retest, as described in paragraph (e)(1)(iii) of this section.

(iii) If testing is done at the common stack, the due date for the next scheduled retest shall be determined as follows:

(A) Substitute the maximum potential flow rate for the common stack (as defined in the monitoring plan) and the highest Hg concentration from any test run (or 0.50 µg/scm, if greater) into Equation 1;

(B) If the value of E obtained from Equation 1, rounded to the nearest ounce, is greater than 144 times the number of units sharing the common stack, but less than or equal to 464 times the number of units sharing the stack, the next retest is due in two QA operating quarters;

(C) If the value of E obtained from Equation 1, rounded to the nearest ounce, is less than or equal to 144 times the number of units sharing the common stack, the next retest is due in four QA operating quarters.

(2) For units with multiple stack or duct configurations, Hg emission testing must be performed separately on each stack or duct, and the sum of the estimated annual Hg mass emissions from the stacks or ducts must not exceed 464 ounces of Hg per year. For reporting purposes, the default Hg concentration used for each stack or duct shall either be the highest value obtained in any test run for that stack or 0.50 µgm/scm, whichever is greater.

(3) For units with a main stack and bypass stack configuration, Hg emission testing shall be performed only on the main stack. For reporting purposes, the default Hg concentration used for the main stack shall either be the highest value obtained in any test run for that stack or 0.50 µgm/scm, whichever is greater. Whenever the main stack is bypassed, the maximum potential Hg concentration, as defined in section 2.1.7 of appendix A to this part, shall be reported.

(f) At the end of each calendar year, if the cumulative annual Hg mass

emissions from an affected unit have exceeded 464 ounces, then the owner shall install, certify, operate, and maintain a Hg concentration monitoring system or a sorbent trap monitoring system no later than 180 days after the end of the calendar year in which the annual Hg mass emissions exceeded 464 ounces. For common stack and multiple stack configurations, installation and certification of a Hg concentration or sorbent trap monitoring system on each stack (except for bypass stacks) is likewise required within 180 days after the end of the calendar year, if:

(1) The annual Hg mass emissions at the common stack have exceeded 464 ounces times the number of affected units using the common stack; or

(2) The sum of the annual Hg mass emissions from all of the multiple stacks or ducts has exceeded 464 ounces; or

(3) The sum of the annual Hg mass emissions from the main and bypass stacks has exceeded 464 ounces.

(g) For an affected unit that is using a Hg concentration CEMS or a sorbent trap system under § 75.81(a) to continuously monitor the Hg mass emissions, the owner or operator may switch to the methodology in § 75.81(b), provided that the applicable conditions in paragraphs (c) through (f) of this section are met.

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**§ 75.82 Monitoring of Hg mass emissions and heat input at common and multiple stacks.**

(a) *Unit utilizing common stack with other affected unit(s).* When an affected unit utilizes a common stack with one or more affected units, but no non-affected units, the owner or operator shall either:

(1) Install, certify, operate, and maintain the monitoring systems described in § 75.81(a) at the common stack, record the combined Hg mass emissions for the units exhausting to the common stack. Alternatively, if, in accordance with § 75.81(e), each of the units using the common stack is demonstrated to emit less than 464 ounces of Hg per year, the owner or operator